



Historical warnings of future food insecurity with unprecedented seasonal heat

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Abstract:

Higher growing season temperatures can have dramatic impacts on agricultural productivity, farm incomes, and food security. We used observational data and output from 23 global climate models to show a high probability (>90%) that growing season temperatures in the tropics and subtropics by the end of the 21st century will exceed the most extreme seasonal temperatures recorded from 1900 to 2006. In temperate regions, the hottest seasons on record will represent the future norm in many locations. We used historical examples to illustrate the magnitude of damage to food systems caused by extreme seasonal heat and show that these short-run events could become long-term trends without sufficient investments in adaptation.

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Resource Description

Climate Scenario :

specification of climate scenario (set of assumptions about future states related to climate)

Special Report on Emissions Scenarios (SRES), Other Climate Scenario

Special Report on Emissions Scenarios (SRES) Scenario: SRES A1

Other Climate Scenario: A1B

Early Warning System:

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

A focus of content

Exposure :

weather or climate related pathway by which climate change affects health

Food/Water Security, Temperature

Food/Water Security: Agricultural Productivity

Temperature: Extreme Heat

Geographic Feature:

Climate Change and Human Health Literature Portal



resource focuses on specific type of geography

Tropical, Other Geographical Feature

Other Geographical Feature : Subtropics

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Africa, Europe

African Region/Country: African Region

Other African Region: the Sahel

European Region/Country: European Country

Other European Country : France;Ukraine

Health Impact:

specification of health effect or disease related to climate change exposure

Malnutrition/Undernutrition

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation

Model/Methodology:

type of model used or methodology development is a focus of resource

Exposure Change Prediction

Population of Concern: A focus of content

Population of Concern:

populations at particular risk or vulnerability to climate change impacts

Children, Low Socioeconomic Status

Resource Type:

format or standard characteristic of resource

Research Article

Timescale:

time period studied

Long-Term (>50 years)

Vulnerability/Impact Assessment:



resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content